

## A NEW NEPA (HEMIPTERA-NEPIDAE).

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Through the assistance of Dr. Teiso Esaki I am able to describe a pair of *Nepas* in my collection as new. Dr. Esaki has been kind enough to describe to me in modern terms the named species which it has been his privilege to examine in the European museums.

The differential specific characters of antennae and male genital capsule were overlooked until recently, and yet they offer the best structural characters for separating the species. I believe the most readily determined *Nepa* is Dr. Esaki's *Nepa hoffmanni*. This is a very broad species with exceedingly short respiratory tube. The other species resemble one another superficially and the only proper way to place a species is to relax a specimen and examine its antennae and, if it be a male, the genital capsule also.

For many years the only known species were: *Nepa cinerea* Linn. (now shown to be *Nepa rubra* Linn. by Dr. Esaki) and its variety *Nepa minor*; *Nepa primitiva* Mont. and *Nepa apiculata* Uhler. In searching for some satisfactory way of separating *Nepa cinerea* Linn. and *Nepa apiculata* Uhler, I was pleased to find that the antenna of the former appeared branched, while that of the latter was not. Differences between the male genital claspers were also found. Recently three more species have been described, namely *Nepa hoffmanni* Esaki, *Nepa chinensis* Hoffmann and *Nepa seurati* Bergevin.

Dr. Teiso Esaki described *Nepa hoffmanni* from four females taken in North China (Tsingtau) by Prof. W. H. Hoffmann in May, 1913, and deposited in the Deutsches Entomologisches Institut der Kaiser-Wilhelm-Gesellschaft, Berlin-Dahlem. The description and figure of this species appeared in the *Entomologische Mitteilungen*, XIV, Nr. 5/6, pp. 313-314, Oct. 10, 1925. Before Doctor Esaki's description appeared I had specimens of this species in my collection from Peking, China. One specimen is a male and the following notes on this sex may be of value. The male in our collection may be called the allotype.

*Nepa hoffmanni* Esaki: Male allotype from Peking, China, taken by P. W. Claassen, April 16, 1925.

*Size:* Length, 20 mm. not including the characteristically short respiratory tube which is 2.5 mm. long. Smaller than the female specimen taken with it, the abdomen not so broad. Length of lateral margin of pronotum, 4.3 mm.; median length of pronotum, 3 mm.; the anterior part: posterior part:: 2: 1. Length of scutellum, 3 mm. Length of hemelytral suture, 4 mm. Width of head, 2.5 mm. Width of anterior part of pronotum, 5 mm.; width of posterior part of pronotum 6.3 mm. Greatest width of abdomen, 7.5 mm.

*Structural Characteristics:* Sculpturing and color as in female. Membrane of hemelytra distinct, reticulate with network of veins. Anterior femora more slender than those of female; middle and hind femora longitudinally grooved above on broad side. Genital plate broadly rounded and bluntly pointed.

*Comparative Notes:* The genital plate of the male is more elevated and less pointed than in *Nepa rubra* Linn. or *Nepa apiculata* Uhler.

William E. Hoffmann described *Nepa chinensis* from specimens he had taken in South China (Canton). His description appeared in the *Lingnaan Agricultural Review*, Vol. 3, No. 1, p. 39 (issued Oct. 19, 1925). As Mr. Hoffmann describes his species, it is smaller and more slender than *N. cinerea* being between *Nepa* and *Curicta* in the latter respect. The description of the antennae and the genital capsule together with the slender form is quite suggestive of *Laccotrephes simulatus* Mont. (China) and *Laccotrephes maculatus* (Java). I am of the opinion that the presence of an inner basal projection on the anterior femur of *Laccotrephes* separates that genus from *Nepa*. I have never seen a *Nepa* with such a projection. Dr. Esaki writes me that some *Laccotrephes* species do not possess the projection, but in that case the shape of the thorax is characteristic.

Dr. Ernest de Bergevin in the *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, Tome Dix-Septième, pp. 290-294, Décembre, 1926, figured and described *Nepa seurati* from Tunis. This species is marked by very broad anterior femora.

#### *Nepa sardiniensis* sp. n.

*Size:* Male measures 15 mm. in length (only 13 mm. to tip of wings) with a respiratory tube 8 mm. long. The greatest width of pronotum is 4.2 mm. The female measures 19 mm. in length and has a pronotum width of 5.6 mm.

*Color*: Same as other species. The dorsum of abdomen orange and red.

*Structural Characteristics*: Antenna is unbranched. Anterior femur, tibia and tarsus stouter than in *N. cinerea* and the trochanter more connate. In the female the last ventral segment of this new species is not as constricted and sharp pointed as in *N. rubra* Linn. The length of the anterior part of pronotum is to the length of the posterior part as 6.5:2.7. The length of the scutellum is to the hemelytral suture as 9.5:13. The clasper is shown on Plate V.

The species of *Nepa* as now known may be separated as follows:

- A. Antenna with penultimate segment bearing a prolongation making it appear two branched.
  - B. Prolongation of penultimate segment longer than the ultimate. . . . . *Nepa chinensis* Hoffmann.
  - BB. Prolongation of penultimate segment shorter than the ultimate.
    - C. Prolongation of penultimate segment about half as long as ultimate.
      - Nepa rubra* Linn. (= *N. cinerea* Linn.)
    - CC. Prolongation of penultimate segment more than half as long as ultimate.
      - Nepa primitiva* Mont.
- AA. Antenna without lateral prolongation on the penultimate segment.
  - B. Respiratory tube very short (3 mm.) a robust species. . . . . *Nepa hoffmanni* Esaki
  - BB. Respiratory tube usually at least 7 mm. long, more slender species.
    - C. Anterior femur very broad at base and last segment of antenna stout. . *Nepa seurati* Bergevin.
    - CC. Anterior femur of normal proportions and last segment of antenna slender and more than twice as long as penultimate.
      - N. sardiniensis* sp. n.

PLATE V.

- Fig. 1. One of the male claspers of *Nepa sardiniensis* sp. n.
- Fig. 2. One of the male claspers of *Nepa apiculata* Uhler.
- Fig. 3. Antenna of *Nepa sardinensis* sp. n.
- Fig. 4. One of the male claspers of *Nepa rubra* Linn. (= *Nepa cinerea* Linn.)

- Fig. 5. Antenna of *Nepa apiculata* (Uhler.)  
Fig. 6. Antenna of *Nepa rubra* Linn. (= *Nepa cinerea* Linn.)  
(N = ultimate segment. P = penultimate segment.)  
(L = lateral prolongation of penultimate segment.)  
Fig. 7. Antenna of *Nepa hoffmanni* Esaki.  
Fig. 8. One of the male claspers of *Nepa hoffmanni* Esaki.  
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#### NOTE ON THE BREEDING OF HERMETIA AURATA BELL. STRATIOMYDAE (DIPTERA).

. BY GEORGE P. ENGELHARDT, Brooklyn Museum.

On June 19, while collecting with Douglas Duncan, of Globe, Arizona, in the Sierra Ancha Mountains, a decaying log of oak alongside a stream bed produced among other insects a peculiar flat, tough-skinned and legless larva which aroused my curiosity and for the time being was placed in a small cork-lined box and forgotten. Two months later when examining the summer's collections this box came to hand again. Some of the insects pinned in it had been partly eaten and destroyed. The only trouble maker that could be found, tightly wedged in a crevice of the cork lining, was the tough-skinned larva from Arizona. It wriggled sluggishly when removed from its hiding place and was allowed to remain in the box after all other contents had been taken out. When next examined, on September 3, the box contained a handsome specimen of the fly *Hermetia aurata*. The empty larval skin showed a rupture behind the second segment dorsally. So little has been published regarding the habits of our North American Diptera of the family Stratiomyidae that it seems worthwhile to record this fragmentary observation.

Members of the genus *Hermetia* appear to thrive best in decaying vegetation, preying upon other insects that live there. A favorite breeding place for several species is the basal part of the dead stalk of yuccas and agavas.